



Republic of the Philippines
Department of Education
REGION III – CENTRAL LUZON
SCHOOLS DIVISION OFFICE - SCIENCE CITY OF MUÑOZ

July 15, 2022

DIVISION MEMORANDUM

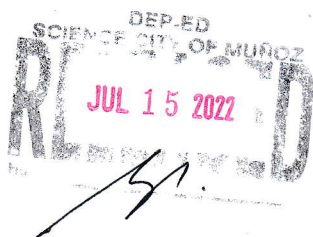
No. 377, s. 2022

**RESULTS OF THE REGIONAL SCIENCE AND TECHNOLOGY FAIR
(RSTF) 2022**

To: Public Elementary and Secondary School Heads
All Others Concerned

1. Pursuant to the issued Regional Memorandum No. 388, s. 2022, Results of the Regional Science and Technology Fair, this Office announces the results and commends all the winners from our division.
2. Attached is the Memorandum enclosing the List of the Regional Level Winners and National Qualifiers, for reference.
4. Immediate dissemination of this Memorandum to all concerned is enjoined.


DANTE G. PARUNGAO, CESO V
Schools Division Superintendent



Loyal, Excellent, Accountable and Dedicated to Service



Address: Brgy. Rizal, Science City of Muñoz, 3119
Telephone No.: (044) 806 -2192; Email Address: munozscience.city@deped.gov.ph
DSCM-QMS-QMR-QSF-008 Rev.04 (01.31.20)



Certificate No. 50500731 QM15



Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

Enclosure No. 1 to Regional Memorandum No. _____, s. 2022

Results of the Regional Science and Technology Fair (RSTF) 2022

Regional Winners and National Qualifiers

SIYENSIKULA

Rank	SDO	Video Title	Participants	School	Coach
1*	Pampanga	Light as a Wave	Loveleiy Cayabyab	Gutad High School	Immanuel Maglasang
2*	Nueva Ecija	Quantum Mechanics of an Electron	Rizelle Ann V. Llanillo	Sto. Domingo National Trade School	Danjun P. Mariano
3	Bulacan	The Higgs Field	Czyrille Jeztine M. Carpio	Prenza National High School	Lady Maru N. Vergara
4	Science City of Munoz	Climate Change	Irish Rhain Gasapin	Muñoz National High School-Main SHS	Mary Rose S. Canonoy
5	Nueva Ecija	Thermodynamics	Jezreal Angelo P. Mercado	Bongabon National High School	John Dominick C. Señal
6	Tarlac Province	Bioprinting	Charmiane Teri B. Ramos	Tarlac National High School	Roxette R. Rosete
7	Zambales	What is DNA?	Jan Arman M. Novicio	San Salvador High School	Lloyd E. Lacerona
8	Angeles City	BioTalk: A Protein Synthesis Analogy	1. Hannah Kim P. Ocampo 2. Michael John B. Fernandez 3. Kharylle L. De Leon	Francisco G. Nepomuceno Memorial High School	Maricar I. Cocamas
9	Gapan City	Triple Point	Harvee Lei Fajardo	Juan R. Liwag Memorial High School	Alice Y. Caymo



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

10	San Jose City	Grains of Hope (GMO)	1. Achillez Marcus M. Cajayon 2. Arvin Miguel T. Eugenio 3. Shun Aei DG Nishitomi	San Jose City National High School-JHS	Hazel J. Pedro
----	---------------	----------------------	---	--	----------------

*Qualifier to the National Science and Technology Fair (NSTF) 2022

#STEMTOKPERIMENTS – JUNIOR HIGH SCHOOL CATEGORY

Rank	SDOs	Title of Entry	Name of Participants	Name of School	Name of Coach
1*	Bulacan	Lava Lamp Magic	Lian Chariz V. Evangelista	Carlos F. Gonzales High School	Jayson B. Eugelio
2	Pampanga	Density Tower	Rhoanne Claire D. Punzalan	San Juan HS	Neslaine P. De Guzman
3	Aurora	Rising Water Experiment	Miel Beatriz G. Duran	Aurora National Science High School	Julius D. Gutierrez
4	San Jose City	Wind Turbine Generator	Zander Oliver De Guzman	San Jose City National High School-JHS	May R. Salvador
5	Tarlac City	Brachistochrone Curve	Patricia Kaye T. Guzman	Tarlac Montessori School	Rene N. Ramilo

*Qualifier to the National Science and Technology Fair (NSTF) 2022

#STEMTOKPERIMENTS – SENIOR HIGH SCHOOL CATEGORY

Rank	SDOs	Title of Entry	Name of Participants	Name of School	Name of Coach
1*	City of Meycauayan	Flood Water Treatment Experiment	Jerome Rj Arellano	Meycauayan National High School- Carmalig	Ancel Francis S. Rapsing



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

2	City of San Fernando	Doppler Effect	Mark Gilmore T. Arceo	Pampanga High School	J-lyn A. Syhuat-Rivera
3	Tarlac Province	Leidenfrost Effect	Audrey Dominique Cardinoza	Tarlac National High School	Roxette Rosete
4	Balanga City	Elephant Toothpaste: A Chemical Reaction	Giorgione H. Paretra	Bataan National High School-SHS	April Mae G. Agustin
5	Angeles City	Chemical Reaction	Mary Jane B. Supetran	Francisco G. Nepomuceno Memorial High School	Glaiza D. Rivera

*Qualifier to the National Science and Technology Fair (NSTF) 2022

LIKHA-LIFE SCIENCE (Individual Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach(es)
1*	Tarlac Province	Inducing Apoptosis in HER-2 Positive Human Breast Cancer Cells by Regulating P53 and Bcl-2 through Photothermal Therapy and Biosynthesized Silver Nanoparticles using Black Mulberry Leaves Extract (<i>Morus nigra</i>)	Beatriz Rosella A. Purawan	Tarlac National High School-Main	1. Nica Joyce P. Aquino 2. Bemilyn A. Purawan
2	Gapan City	In-vitro Assessment of Quorum Quenching Activity of Talahib (<i>Saccharum spontaneum Linn.</i>) Root Ethanolic Extract against <i>Xanthomonas oryzae pv. oryzae</i>	Marylle Joylle E. Pineda	Juan R. Liwag Memorial High School	Divine Claire F. Lorido



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph



Certificate No. AJN17-0077



Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

3	Balanga City	Antiproliferative Activity of Enhanced Silver Nanoparticles through <i>Averrhoa bilimbi</i> L. fruit Extract against MCF-7 Human Breast Cancer Cell	Jan Mari Alessandra D. De Delon	Bataan National High School-SHS	Lyka Bugarin-Dela Rosa
4	Angeles City	Utilization of Clitoria Ternatea (<i>Butterfly pea</i>) petals as an alternative treatment of Hyperuricemia	Hea Sabina O. Salvador	Angeles City Science High School	Lolita G. Bautista
5	Pampanga	The Biological Activities of Nano Zeolite-based <i>Dendroctide meyeniana</i> (Walp.) Chew root bark: Implications to Health and Medicine	Aries Guiao	Rodolfo V. Feliciano Memorial High School	Dhalia Guinto

*Qualifier to the National Science and Technology Fair (NSTF) 2022

LIKHA-LIFE SCIENCE (Team Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach(es)
1*	Angeles City	ANI: Alternative Non-Toxic Insecticide Against Rice Pests	1. Zachari Aaron Y. Quiambao 2. Alexa Rey D. Guanlao 3. Louise Anne M. Moloa	Angeles City Science High School	Lolita G. Bautista
2	Tarlac Province	Photobactericidal Therapy of <i>Staphylococcus aureus</i> by Methylene Blue Fused with Thiolated Iron-Doped	1. Michella C. Tiamzon 2. Yvonne Raycel C. Abanilla 3. Mariel Kassandra Louraine S. Gonzales	Tarlac National High School-Main	1. Gracita P. Principe 2. Maria Rollaine T. Esteban



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph



Certificate No. AJAT/2017



Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

3	Zambales	Nanoceria under Blue Light-Emitting Diode (LED)	Biosorption and Bioaccumulation Potential of Mud Clam (<i>Polymesoda erosa</i>) on Chromium Hexavalent and Lead-Impacted Sediment in Masinloc River, Zambales	1. Irish I. Edquiban 2. Juan Carlos E. Mercado 3. Rein E. Edora	Taltal National High School	Melvin Jake D. Manaog	3. Maria Perpetua C. Patiag
4	Cabanatuan City	Evaluation of (Allamanda Blanchetii a. dc.) Floral Extract on A549 Cell Line and AA8 Chinese Hamster Ovarian Fibroblast		1. Hannah Alison M. Cabling 2. Hannah Sharraine G. Parumog, 3. Jerel Kristofehhr A. Pelayo	Honorato C. Perez, Sr. Memorial Science High School	Gladys Caolie	
5	Nueva Ecija	Characterization and Isolation of Alkaloids and Steroids from Gulasiman (<i>Portulaca oleracea</i>) Plants Utilize in Antiangiogenic Activity of Zebrafish (Danio rerio) Embryos and the Anti-hyperlipidemic Potential of its Ethanol Extract in Swiss Albino Mice		1. Jezreal Angelo P. Mercado 2. Jean Chantel P. Pelaez 3. Janelle Lou T. Zabat	Bongabon NHS	John Dominick C. Señal	

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph



Certificate No. AJA17-0077



Republic of the Philippines

Department of Education

REGION III-CENTRAL LUZON

LIKHA-PHYSICAL SCIENCE (Individual Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	City of San Fernando	Kayantabe: Bringing Green-Technology (Solar Power Station) and Agricultural Automation	Mark Gilmore T. Arceo	Pampanga High School	J-lyn A. Syhuat-Rivera
2	Nueva Ecija	BAC-CRETE: Development of Potential Heat-tolerant and Self-Healing Bacterial Concrete through the Incorporation of Bacillus Amylolyticus CMB01 Strain	Paulo Rudell R. Fajardo	Nueva Ecija HS	Daisylyn O. Olivares
3	Bulacan	Potential Use of Luffa (<i>Luffa aegyptiaca</i>), Coconut Coir (<i>Cocos nucifera</i>), and Coffee Filter For Biodegradable Face Mask Production	Charlene J. Fernandez	San Miguel National High School	Rachelle S. Viñas
4	Angeles City	ALUMEN: Aluminum-Halide Based-Perovskite as a Potential Substitute for Lead-Halide Based Perovskites	Trishanne Yin C. Ong	Angeles City Science High School	Lolita G. Bautista
5	Science City of Munoz	Novel Green Nanotechnology-based Biodiesel Production for Farm Irrigation Application: Synthesis, Process Optimization, and Characterization	Frenecheska Nicole B. Andaya	Munoz National High School-Main JHS	Maricor V. Santos

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

LIKHA-PHYSICAL SCIENCE (Team Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	Angeles City	Sol-gel Synthesis and in Vitro Study of Bioglass derived from Perna viridi (Green Mussel) shells and Bambusa Blumeana (Bamboo) leaf ash for Bone Tissue Regeneration	Frances Gabrielle S. Bingcang; Hart Gabrielle T. Ong; Jessica Loreen L. Yabut	Angeles City Science High School	Lolita G. Bautista
2	Bulacan	Biomimetics Application of Hibiscus tiliaceus Linn Leaf Extract as Green Surface Protectant on Metal Alloys	Zyrell M. Blazo; Patricia Ann M. Balbas; Clark Kent P. De Jesus	Preza National High School	Geraldine C. Anasco
3	City of San Fernando	Gambul: A Multi-Purpose Urban Gardening House Integrated with Plant Nursery, Hydroponics System, and Insect Light Trap	Mary Hannah Claire B. Gozun; Lance Axl Z. Pangilinan; Venice Erika Kaye R. Roxas	Pampanga High School	Elizabeth B. Canlas
4	Gapan City	Probiotic-induced Polyethylene Degradation using Lactobacillus acidophilus-fed Wax Worm (Galleria mellonella)	Jhan Jomar Marcelo; Elline Camba; Roby Aulyn Alvaran	Juan R. Liwag Memorial High School	Mary Ann L. Manuel
5	Tarlac Province	Photocatalytic Biodegradation of Low-Density Polyethylene (LDPE) Plastics by Mutagenized Polyethylene Terephthalate-Digesting Enzyme (PETASE) from Chlamydomonas Reinhardtii and Microbiologically Synthesized Zinc Oxide Nanoparticles under UV Light	Rosa D. Lingat; Arnon Yzabel G. Guinto; Samantha Nicole I. Gonzales	Tarlac National High School-Main	Gracita P. Principe; Maria Rollaine T. Esteban; Maria Perpetua C. Patiag

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph



Certificate No. AJAT/0077



Republic of the Philippines
Department of Education
REGION III-CENTRAL LUZON

LIKHA-ROBOTICS AND INTELLIGENT MACHINES (Individual Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	Nueva Ecija	Banger Machine: A Solar-Powered Noise Controlling Device for Demobilizing Birds and Rodents	Gian Sen L. Kong	Bongabon Senior High School	Concordia I. Villasis
2	Gapan City	Artificial Intelligence-Based Soil Moisture Sensor for Water Management	Ron Michael D. Trinidad	Juan R. Liwag Memorial High School (Senior High School)	Judd Edward Z. Hernandez
3	Tarlac Province	Hydrolektro Kit: Water Electrocoagulation, Turbidity and pH Meter via Arduino	Raile Marvin J. Castro	Tarlac National High School-Main	Gracita P. Principe; Maria Rollaine T. Esteban; Maria Perpetua C. Patiag
4	City of Malolos	Developing an Arduino Based Optical Spectrometer Device Using Transmission Spectroscopy in Detecting Nitrogen Level Among Rice (Oryza sativa) Crops	Romar S. Almoguez	Marcelo H. Del Pilar National High School	Norma Lyn M. Garcia
5	Bulacan	Project WH2EELS (Wheelchair: Help-provider and Health Examiner with Efficient Locator System	Shane P. Vital	Assemblywoman Felicita G. Bernardino Memorial Trade School	Espy S. Balbuena

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
REGION III-CENTRAL LUZON

LIKHA-ROBOTICS AND INTELLIGENT MACHINES (Team Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	Gapan City	CWAD: Canal Waste Automated Depolluting System	Vann Laurence Bagaybagayan; John Carlo Dela Cruz; Sofia Felise Mariano	Juan R. Liwag Memorial High School	Alice Y. Caymo
2	Angeles City	Fish Tayo: Light and Sound Inducement Device for Coral Reef Restoration and Abundant Fishing	Timothy James O. Jarlego; Gabriel S. Miranda; Athena Venus G. Macapinlac	Angeles City Science High School	Lolita G. Bautista
3	Aurora	San Di (Sanitation And Disinfection): An Arduino-Based Cleaning And Disinfectant Robot	Justin F. Lapig; Alexa Faith M. Caballes; Melissa Rose B. Pescado	Aurora National Science High School	Anna Isidora P. Cabansal
4	Nueva Ecija	EM-SR 22: An Intelligent Electronic Multi-Purpose Sprayer Robot	Neil Jansen S. Castaneda; Kristine Faith A. Fajardo; Shylenne Trixel Bunag	Bongabon NHS	John Dominick C. Señal
5	Pampanga	Wise Segregator: The Efficiency of the Designed Automatic Waste Segregation System	Adrian Joe T. Pangan; Drence P. Niric; Nikha Mae L. Bautista	San Juan High School	Kharen M. Rafael

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

LIKHA-MATHEMATICS AND COMPUTATIONAL SCIENCE (Individual Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	Aurora	Mathematical Modeling of the Impacts of TIO2 and CeO2 in Tap Water Convection Cooling	Nikka Elaine O. Lumasac	Aurora National Science High School	Myreen A. Manzano
2	Tarlac Province	Weather Research and Forecasting (WRF) Model of a Modified Geographic Terrestrial Data of Sierra Madre Mountain Range and its Projection of Typhoon Activity	Lee Joseph A. Nuqui	Tarlac National High School- Main	Nica Joyce P. Aquino
3	Tarlac City	Machine Learning Algorithms' Empirical Comparison and Impact on Disease Diagnosis	Enid Niña G. Maong	Maiwalo High School	Reanne Nicole Canlas
4	City of Malolos	The Capability of Wearable Ultrasonic Sensor with Voice Controlled Personal Assistant in Detecting Obstacles to aid Visually Impaired Individuals	Jeroen Ralph I. Tenorio	Marcelo H. Del Pilar National High School	Norma Lyn M. Garcia
5	Nueva Ecija	Workout Pose Estimation through Artificial intelligence (A.I)	Neil Clarence A. Cayton	Dr. Ramon De Santos National High School	Reynaldo D. Dadulla

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph





Republic of the Philippines
Department of Education
 REGION III-CENTRAL LUZON

LIKHA-MATHEMATICS AND COMPUTATIONAL SCIENCE (Team Category)

Rank	SDOs	Research Title	Name of Participants	Name of School	Name of Coach
1*	Tarlac City	Fantastic Patterns: The Secrets of Textile Arts	Chrystal Mae Ferrer; Precious Cerina Castro; Ailyn Castro	Maliwalo High School	Khimberly Del Mar
2	Zambales	Sensorless Water Level Estimation on Trapezoidal Structures Using a Devised Formula and Image Processing Software	Jan Emmanuel R. Dicag; John Christopher V. Occena; Shamaekka Riz L. Dela Cruz	Castillejos National High School	Elvis A. Domingo
3	City of Matolos	ALGA: An Arduino Based Sensing Device in Detecting Specific Water Quality Parameters to Disseminate Accurate Information for Possible Harmful Algal Blooms (HABs) Occurrence in Freshwater	Reizel Nicole U. Mendoza; Alison Kyle R. Evia; Alliah Faith B. Del Rosario	Marcelo H. Del Pilar National High School	Norma Lyn M. Garcia
4	Cabanatuan City	Secondary Metabolite Analysis and In Silico Characterization of Ginkgo biloba as Inhibitor of Calcium-Independent Phospholipase A2 β (iPLA2 β): A Drug Analysis for Cell Apoptosis and Neurodegenerative Diseases	Charles Daniel M. Medina; Erick Brylle R. Relayo	Honorato C. Perez, Sr. Memorial Science High School	Faye Marion Sebastian Nikki Cruz
5	Aurora	Mathematical Model for Monthly Optimal Tilt Angle for Solar Panel: A Case Study of PAG-ASA Weather Station, Baler, Aurora, Philippines	Marchizt Jamaicha E. Avellaneda; Dylan Joseph R. Gonzales; Abby Angel B. Rivera	Aurora National Science High School	Myreen A. Manzano



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
 Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph



Republic of the Philippines
Department of Education
REGION III-CENTRAL LUZON

6	Pampanga	Computational Assessment of Pampanga's Biomass Resource for Energy Generation	Lorenz Angelo D. Dizon; Zian Daovic A. Alfonso; Justine John A. Sarmiento	San Juan High School	Kharen M. Rafael
---	----------	---	---	----------------------	------------------

*Qualifier to the National Science and Technology Fair (NSTF) 2022



Address: Matalino St., D.M. Government Center, Maimpis, City of San Fernando (P)
Telephone Number: (045) 598-8580 to 89 • Email Address: region3@deped.gov.ph

